

Application No.: 10/053,053
Amdt dated April 30, 2008
Reply to Office action of October 30, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (Currently amended) An apparatus for installing an implant in a hollow body organ having a vessel wall, including:

means for transporting said implant into said hollow body organ;

a removable expansion assembly releasably engageable with said implant, said removable expansion assembly including a plurality of peripheral struts extending generally parallel to a longitudinal axis and spaced angularly thereabout, said struts including like proximal ends and distal ends, said proximal ends being free of mechanical connection, said distal ends being secured together and connected to a tube, and a cap, said cap being mounted on a central strut slidably disposed within said tube, wherein said cap is movable between a first position, wherein said proximal ends are captured within said cap, and a second position, wherein said proximal ends are released from said cap;

means for dilating said expansion assembly and expanding a portion of said implant against said vessel wall;

means for fastening said portion of said implant to said vessel wall of said organ while said expansion assembly holds said portion against said vessel wall; and

means for collapsing said expansion assembly and releasing said portion of said implant.

2. (Currently amended) The apparatus of claim 1, wherein said implant comprises a tubular, sleeve-like component free of mechanical structure.

3. (Currently amended) The apparatus of claim 2, wherein said removable expansion assembly is disposed to translate concentrically within said tubular, sleeve-like component free of mechanical structure.

4. -9. (Canceled)

10. (Currently amended) The apparatus of claim 1 9, wherein said means for dilating said expansion assembly encompassing includes means for translating said central strut distally to urge said end cap to impinge on said proximal ends of said peripheral struts while holding said peripheral struts stationary or urging them in a proximal direction to thereby and compress said peripheral struts axially.

11. (Currently canceled)

12. (Previously amended) The apparatus of claim 1, further including means for translating said peripheral struts distally along said longitudinal axis to move said proximal ends of said peripheral struts distally with respect to said means for fastening said portion of said implant to said vessel wall.

13. (Currently amended) The apparatus of claim 1 7, wherein said removable expansion assembly includes a confinement tube, said confinement tube having a lumen dimensioned to receive said peripheral struts in a non-expanded, collapsed state.

14. (Original) The apparatus of claim 13, wherein said confinement tube is translatable with respect to said peripheral struts to move said confinement tube selectively into concentric confinement of said peripheral struts.

15. (Original) The apparatus of claim 2, wherein said tubular, sleeve-like component includes at least one cuff formed at a proximal end thereof.

16. (Original) The apparatus of claim 15, wherein said means for transporting includes a catheter assembly having a first tube.

17. (Original) The apparatus of claim 16, wherein said first tube includes a lumen adapted to receive said tubular, sleeve-like component, said first tube having a diameter dimensioned so that the proximal end of said first tube engages said cuff in end-abutting relationship.

18. (Original) The apparatus of claim 17, wherein said tubular, sleeve-like component is disposed in said lumen in a radially contracted state.

19. (Original) The apparatus of claim 17, wherein said catheter assembly includes a second tube disposed for axial translation concentrically within said first tube, said second tube having a proximal end dimensioned to engage the distal end of said tubular, sleeve-like component in end-abutting relationship.

20. (Currently canceled).

21. (Original) The apparatus of claim 2, wherein said tubular sleeve-like component includes means for increased longitudinal stiffness.

22. (Original) The apparatus of claim 21, wherein said means for increased longitudinal stiffness includes a plurality of pleats extending longitudinally in said tubular; sleeve-like component.

23. (Original) The apparatus of claim 21, wherein said means for increased longitudinal stiffness includes a plurality of stiffener struts secured longitudinally in said tubular, sleeve-like component.

24. (Original) The apparatus of claim 2, wherein said tubular, sleeve-like component includes at least one cuff formed at one end thereof.

25. (Original) The apparatus of claim 24, wherein said at least one cuff includes an end portion of said tubular, sleeve-like component folded retroflexively to impinge on the exterior of said component.

Application No.: 10/053,053
Amdt dated April 30, 2008
Reply to Office action of October 30, 2007

26. (Original) The apparatus of claim 25, further including at least one reinforcing band incorporated in said at least one cuff.

27. (Original) The apparatus of claim 26, wherein said at least one reinforcing band is resiliently biased to expand radially outwardly.

28. (Original) The apparatus of claim 2, wherein said implant has a Y-configuration.

29. (Original) The apparatus of claim 28, wherein one branching end of said Y configuration comprises an elongated tubular leg.

30. (Currently amended) The apparatus of claim 28, wherein one branching end of said Y- configuration comprises a short connector leg.

31. (Original) The apparatus of claim 1, wherein said means for fastening includes a fastener member adapted to be inserted within said implant.

32. (Original) The apparatus of claim 31, further including at least one flexible tie connector extending from said fastener member.

33. (Original) The apparatus of claim 32, further including needle means for containing said fastener member and flexible tie connector; and means for driving said needle means through the exterior of said vessel wall to pierce said vessel wall and said implant.

34. (Original) The apparatus of claim 33, wherein said means for driving includes an endosurgical tool.

35. (Original) The apparatus of claim 33, further including push rod means for discharging said fastener member from said needle mean into the interior of said implant, said at least one flexible tie connector including an external portion extending from said fastener member exteriorly of said vessel wall.

36. (Original) The apparatus of claim 35, further including means for applying tensile force to said external portion of said at least one flexible tie connector; whereby

Application No.: 10/053,053
Amdt dated April 30, 2008
Reply to Office action of October 30, 2007

said implant and said vessel wall are clamped together between said fastener member and said external portion of said at least one flexible tie connector.

37. (Currently amended) The apparatus of claim 36, wherein said means for applying tensile force include means for winding said at least one flexible tie connector about a winding axis.

38. (Original) The apparatus of claim 37, wherein said means for winding includes a tool having a torque-limiting mechanism.

39. (Original) The apparatus of claim 37, wherein said means for winding includes an endosurgical tool.

40. (Currently amended) A removable expansion assembly for dilating a surgical implant within a hollow body organ, including:

a plurality of peripheral struts, said struts having a relaxed state in which said peripheral struts extending generally parallel to a longitudinal axis and are spaced angularly thereabout, said peripheral struts and including like proximal ends, said proximal ends being free of mechanical connection;

said plurality of peripheral struts being removably disposed within said surgical implant; and

means for urging said peripheral struts to a bowed state, wherein said peripheral struts expand radially outwardly from said longitudinal axis, whereby to thereby dilate said surgical implant-is dilated.

41. (Canceled)

42. (Currently amended) The removable expansion assembly of claim 40, wherein said peripheral struts include like distal ends, said distal ends being secured together.

43. (Currently amended) The removable expansion assembly of claim 40, wherein said means for urging said peripheral struts includes means for compressing said peripheral struts along said longitudinal axis to effect bowing of a central portion of said peripheral struts radially outwardly from said longitudinal axis.

44. (Original) The removable expansion assembly of claim 43, wherein said means for compressing includes an end cap, said end cap including means for releasably impinging on said proximal ends of said peripheral struts.

45. (Original) The removable expansion assembly of claim 44, further including a central strut extending parallel to said peripheral struts, said central strut being secured to said end cap.

46. (Original) The removable expansion assembly of claim 45, further including means for translating said central strut distally to urge said end cap to impinge on said proximal ends of said peripheral struts and compress said peripheral struts axially.

47. (Original) The removable expansion assembly of claim 44, wherein said means for releasably impinging includes a recess formed in a distal surface of said end cap.

48. (Original) The removable expansion assembly of claim 40, further including means for translating said peripheral struts distally along said longitudinal axis to move said proximal ends of said peripheral struts distally with respect to said end cap.

49. (Original) The removable expansion assembly of claim 40, further including a confinement tube, said confinement tube having a lumen dimensioned to receive said peripheral struts in a non-expanded, radially-collapsed state.

50. (Original) The removable expansion assembly of claim 49, wherein said confinement tube is translatable with respect to said peripheral struts to move said confinement tube selectively into concentric confinement of said peripheral struts.

51.-59. (Previously Canceled).

60. (New) A removable expansion assembly for dilating a stentless endograph within a hollow body cavity, comprising:

a tube;

a plurality of peripheral struts extending generally parallel to a longitudinal axis and spaced angularly thereabout, each peripheral strut having a proximal end, a central portion and a distal end, the distal ends being connected to the proximal end of the tube;

a central strut slidably disposed with the tube; and

a cap connected to the proximal end of the central strut, the cap configured to releasably receive the proximal ends of the peripheral struts,

wherein the cap is movable relative to the tube from a first position, wherein the proximal ends of the peripheral struts are captured within the cap in a relaxed state, to

Application No.: 10/053,053
Amdt dated April 30, 2008
Reply to Office action of October 30, 2007

a second position, in which the cap is moved distally toward the proximal end of the tube to thereby cause the central portions of the peripheral struts to bow outward from the longitudinal axis, to a third position, wherein the cap is moved proximally away from the proximal end of the tube to thereby release the proximal ends of the peripheral struts.